APPENDIX H - Preparation Guidelines for Capital Preventive Maintenance Project Report

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ARTICLE 1 - Overview

Use of Capital Preventive Maintenance Project Report

These guidelines provide information to be used with the procedures described in Chapter 9, Article 16, of the *Project Development Procedures Manual* for Capital Preventive Maintenance (CAPM) projects. All CAPM projects are funded from the HA22 Program. The CAPM PR satisfies the requirements for both the project initiation document and the Project Report (PR) for CAPM projects in the HA22 program. When the CAPM PR form is completed and approved by the District Director or their designee, it serves as the project approval document.

The District HA22 Program Coordinators are responsible for selection of projects for the HA22 candidate list. The district is also responsible for initiating and developing CAPM projects. The District Design Unit, with assistance from the Maintenance Unit, should jointly do the scoping and cost estimating for the selected projects. Expenditure authorizations should be secured in the same manner as PSRs.

Since the CAPM PR is used as the primary project reference document by both Headquarters and the District, the need for accurate and complete project information is essential.

CAPM Program

CAPM projects are capital outlay projects that utilize capital preventive maintenance rehabilitation strategies to preserve the existing pavement structural section in a "safe and usable condition" as defined in the Streets and Highway Code (Section 27). Capital preventive maintenance strategies (strategies that extend pavement service life for a minimum of 5 years) may involve such types of work as: grinding or replacement of concrete slabs; "thick blanket" asphalt concrete overlays; etc. Surface treatments (seal coats) and "thin blanket" asphalt concrete overlays are not capital preventive maintenance strategies and should be funded as major maintenance projects.

Improvements that upgrade the existing facility to current standards are also beyond the scope and intent of CAPM projects. CAPM projects are not to include upgrading of geometric features and appurtenances for safety purposes and will not degrade the existing geometric design and safety features to below those which currently exist. All newly constructed project features are to be in conformance with current design and safety standards, policies and practices.

Successive CAPM projects on a facility may be warranted as a pavement management strategy; however, each successive project must be reviewed and evaluated with regard to the existing geometric design and safety features so that they will not be degraded below those which currently exist. CAPM projects which are consistent with the scope and intent of the CAPM program and do not degrade the existing geometric design and safety features to below those which currently exist do not require an "Exceptions to Mandatory Design Standards Fact Sheet".

CAPM projects normally meet the categorical exemption class requirements of CEQA and the criteria of the FHWA Programmatic Categorical Exclusion (NEPA). CAPM projects will also typically not extend outside of the state-owned right of way. The CAPM pavement management strategy that is selected and utilized to maintain and preserve the existing pavement structural section must be appropriate for the amount of pavement deterioration that is observed. Projects are not to be selected and developed using CAPM strategies purely to avoid delays in project delivery due to environmental or right of way clearance problems.

Design Field Review

It is necessary to field review all CAPM projects. All project field reviews must be documented since the project personnel may change. Decisions and agreements made during the early phases of the project development process need to be documented and retained in the project files for future reference. Field reviews of all CAPM projects are also needed so that reliable project scope and cost estimates can be developed and programmed.

Deflection Studies

Deflection studies must be completed prior to the field review by the scoping team for all asphalt concrete (AC) CAPM projects. For scheduling purposes, a list of projects for deflection testing should be submitted to the Engineering Service Center (ESC) Office of Materials Engineering and Testing Services (METS) by the District, preferably six months in advance of the field review.

Periodic reviews of the existing pavement condition should be made for CAPM projects between approval of the CAPM PR and submitting the PS&E to ESC Office of Office Engineer (OOE). A follow-up deflection study may be needed prior to finalizing the PS&E and should be considered one year prior to the HQOE PS&E submittal date.

Scoping Team

A scoping team staffed at the discretion of the District will field review most CAPM projects. The composition of the team will vary in accordance with the complexity of the project. As a minimum, a representative of the METS Pavement Consulting Services Branch must be invited. The CAPM PR form will be used during the project scoping process. The form should be completed by the District using information compiled prior to the scoping field review and must be furnished to each of the participants in advance of the scoping field review for their review and comments.

ARTICLE 2 - Guidelines for Completing the CAPM PR Form

General

The CAPM PR format is a "fill-in the blanks" type of report. The information needed to be supplied should be fairly self-explanatory from reading the form. The following background information is being provided to supplement those sections of the report that require additional guidance.

Cover Sheet

All CAPM PRs should have a standard cover sheet to provide project identification information and signatures. Information to be provided includes the following:

- Title

  Indicate "Capital Preventive Maintenance Project Report (CAPM PR)".

- File Reference

  District-County-Route-Kilometer Post (Post Mile) [Dist-Co-Rte-KP(PM)]

  The Kilometer Post should be given to the nearest 0.1 kilometer; if the project is 0.2 kilometers or more in length, give both the beginning and ending Kilometer Posts. Post Miles should follow Kilometer Posts if needed for continuity of file references or other reasons.

  Responsible Unit (RU)

  The unit source code of the registered civil engineer in charge of the technical features of the project.

  Expenditure Authorization (EA)

  The multiphase EA, using the "0" phase for the project.

  Month Year

  Give the month and the year the report is being prepared in.

- Vicinity Map

  Refer to the discussion on Strip Map under Number 14.

- On Route _____ From _____ To _____

  A brief written description of the project limits that corresponds to the Kilometer Posts given above and ties the limits to commonly known physical features on the ground that can be identified on available mapping.

- Recommended Approval

  A recommendation for approval must be signed by the Project Manager as an indication that all appropriate studies have been included and as an indication that the proposal is in accord with the scope and intent of the CAPM program and Caltrans' policies.

- Approval

  The approval of the CAPM PR recommendations, signed and dated by the District Director or their designee. The date of signing becomes the official project approval date.

Registered Civil Engineer's Stamp and Statement

The second page of the CAPM PR contains the required stamp or seal and signature of a registered civil engineer who is the person in responsible charge. The sheet must include a statement indicating that the registered civil engineer attests to the technical information contained herein and the data upon which recommendations, conclusions, and decisions are based. Approval of the CAPM PR is a management decision and is separate from this technical signature of the person in responsible charge.

2. BRIEF PROJECT DESCRIPTION

A one to two sentence summary of the scope of work proposed by the CAPM PR.

3. ENVIRONMENTAL STATUS

The environmental statements as shown must be used. Fill in the categorical exemption class.

4. TRAFFIC DATA

Provide the information requested. CAPM projects should normally be designed on the basis of current average daily traffic (ADT) and current peak period design hourly volume (DHV) to extend the structural section service life for a minimum of 5 years. Studies to predict future traffic are not normally necessary on very low volume roads since, even high percentage increases in traffic do not significantly impact design decisions.

5. ROADWAY AND STRUCTURES INFORMATION

Provide the information requested.

Upgrading geometric features of existing facilities is beyond the scope and intent of the CAPM program. However, if the existing geometric conditions are such that capital preventive maintenance work can not be considered without substantial upgrades, then the project does not qualify for the CAPM program. The project should then be evaluated as a RRR project or if significant upgrade work is required, possibly reconstruction.

6. PAVEMENT CONDITION

Provide the latest information available for each homogeneous segment. This information is to be obtained from the most recent Pavement Management System (PMS) - Pavement Condition Survey Data.

8. COST ESTIMATE

Include a cost breakdown for each of the major elements of the project by providing the information requested. CAPM projects may include such items as placement of additional surface material, grinding pavement surfaces and/or other work necessary to preserve the existing pavement structural section.

To minimize future cost increases, a thorough scoping of the project needs to be completed during the design field review and a reliable project cost estimate needs to be prepared. Unreliable cost estimates result in severe problems in Caltrans' programming and budgeting, and in local and regional planning. Realistic evaluations as to the final concept, scope, and cost of each project are to be established as early as possible and should be based on the results of the field review. All anticipated work (i.e.: digouts, grinding, crack sealing, asphalt overlay, shoulder backing, etc.) should be included. The project cost estimate should be prepared using the methodology presented in the outline.

Districts should base their cost estimates on experience with similar projects and available historical data. See Chapter 20 and Appendix AA for further details on estimating project costs.

Unless the particulars of a specific case justify use of a different factor, a 20% contingency factor should be used.

11A. & 11B. REVIEWS

Summarize all major reviews and coordinations within Caltrans and with other interested agencies.

Indicate type of federal involvement. CAPM projects should typically be exempt.

13. PROJECT SUPPORT

Include estimated PY effort and other support costs of project development and construction from the time the project is initially programmed through the final stages of construction. The proposed schedule should be based upon when the District realistically expects that the project would be programmed, typically in the last two years of the program. This information is not required for Minor projects.

The cost of any specialty contracts or other atypical direct project costs which may be required for the project should also be estimated by the proposed fiscal year. Do not include costs for PY estimates. The Project Management Program (PMP) will establish average dollar costs per PY for various functions, including salary, benefits, CADD usage, travel and other direct costs. Once a project is about to be programmed, these rates will be applied to the estimated PY effort by PMP to establish the project's support budget.

15. LIST OF ATTACHMENTS

- Strip map (may be eliminated if Vicinity Map on Cover Sheet is adequate)

  A small map showing the project limits consistent with the brief description and Kilometer Posts, and a north arrow. The map should be sufficient to locate the project at a glance for a person unfamiliar with the project. It should show the features used to identify the project limits such as roads, streams, junctions or railroads, and the nearest town (unless too distant), and a note indicating the direction to and name of the next town in each direction. In addition if appropriate to understanding the proposed work, pertinent project features may be shown on the Strip Map, but not on the Vicinity Map.

- A GIS map of the project vicinity and counties containing the project limits. Color coding via a color key or legend for the map should indicate:

  a) the total number of distressed lane miles in the District from the last Pavement Condition Survey (including the date);
  b) the location and total number of bad lane miles which the project will retire; and
  c) the number of bad lane miles which are being retired in the current SHOPP (of midcycle SHOPP) document for the District.

  The statistic for item b should be presented beside the largest colorized portion of the project. The key or legend for the color coding should be superimposed in the corner of the map so as to not obscure the project limits, north arrow, or other markers.

Caltrans Metric

Dist - Co - Rte, KP(PM)
RU - EA
RAS - HA22 Program
Month/Year

CAPITAL PREVENTIVE MAINTENANCE PROJECT REPORT

Vicinity Map

Show:

- Project limits
- North Arrow

On Route_____

From _____

To _____

APPROVAL RECOMMENDED:

_____
PROJECT MANAGER

APPROVED:

_____ _____
DISTRICT DIRECTOR *DATE*

Dist - Co - Rte, KP(PM)

This Capital Preventive Maintenance Project Report has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

REGISTERED CIVIL ENGINEER *DATE*

OUTLINE FOR
CAPITAL PREVENTIVE MAINTENANCE PROJECT REPORT

1. Project Limits [Dist., Co., Rte., KP(PM)]:_____

2. Brief Project Description:

   _____

   _____

3. Environmental Status:

   Categorical Exemption (CEQA)

   This project is categorically exempt under Class ___ of the State CEQA Guidelines.

   Categorical Exclusion (NEPA)

   Programmatic Categorical Exclusion, approved September 7, 1990.

4. Traffic Data

   Present ADT_____ 5-Year ADT_____

   DHV_____ % Trucks_____

   *T.I. (5 Year)_____

   * Must correlate with T.I. in Materials Report/Deflection Study

5. Roadway and Structures Information:

Facility*	Through Traffic Lanes			Paved Shoulder Width		Median Width	Bridge Approach Slab Work	
	No. of Lanes	Lane Width	Type (AC or PCC)	Left	Right		(Y/N)	# Slabs

* Enter EXISTING Kilometer Post limits (Expand as needed, for varied geometrics.) and/or Structure Name, Number and Kilometer Post.

6. Condition of Existing Pavement (Repeat information for each homogeneous segment):

PMS Category (1-29)_____ Priority Classification (.1-.4)_____

Ride Score_____

*PCC Pavement: * AC Pavement:

* From latest PMS-Pavement Condition Inventory Survey Data.

3rd Stage Cracking% _____ Alligator B Cracking% _____

Faulting _____ Patching% _____

Joint Spalls _____ Rutting _____

Pumping _____ Bleeding _____

Corner Breaks% _____ Raveling _____

Locations(s) of subsurface or ponded surface-water problem_____

7. ** Deflection Study Data (Findings and Recommendation for AC pavement):

_____

_____

_____

_____

_____

_____

_____

_____

_____

** The gathering of the field data may be performed by the Office of Materials Engineering and Testing Services (METS) Pavement Consulting Services Branch, District, or consultants. However, METS should make the recommendations in order to have uniformity statewide, subject to METS being able to furnish recommendations in accordance with schedules established by District Project Managers. The deflection study should be no older than 1 1/2 years for project scoping (see Chapter 9, Article 5).

8. Cost Estimate Breakdown:

Pavement Structural Section Work	Lane-Kilometers/Number	Cost[3]
Total Lane-Kilometers of CAPM Work		
Digouts[1]		
AC Overlay of AC Pavement (recycle not included)[2]		
Hot Recycled AC[2]		
Cold Recycled AC[2]		
AC Overlay of PCC Pavement[2]		
PCC Pavement Work (List appropriate work type: grind, slab replacement, spall repair, rout and seal random cracks, joint seal, etc.)[4]		
Ramps[4]		
OC/UC and Bridge Approaches (List appropriate work type: ground, replaced, etc.)[4]		
Other (List work required.)[4]		
COSTS SUBTOTAL		

Non Pavement Structural Section Work	Does the Project Include? (Yes/No)	Cost[3]
Railroad Agreements (List work required.)[4]		
Traffic Control		
Traffic Stripes and Pavement Markings		
Paint		
Thermoplastic		
Pavement Markers		
Mobilization		
Other (List work required.)[4]		
COSTS SUBTOTAL		

SUM OF SUBTOTALS	
20% Contingency	
TOTAL PROJECT COST	

Notes:
1. Cost to remove and replace localized failed areas.
2. Include cost of shoulder backing material for increased thickness at shoulder edge, as needed.
3. If duplicated in other items, show cost in parenthesis.
4. Add additional lines as necessary. Do not include support costs.

9. Other Agencies Involved (Permits/Approvals from Fish and Game, Corps of Engineers, Coastal Commission, etc.):

10. Other Considerations

Hazardous waste disposal site required? If yes, where are sites?

Materials and or disposal site needs and availability?

Railroad Involvement (At-grade or Separated-grade crossings, Railroad Agreement, etc.):

Consistency with other planning (Other maintenance or rehabilitation work):

Salvaging and recycling of AC or other non-renewable resources:

Prolonged temporary ramp closures:

Effects on bicycle traffic:

11A. Has the project been field reviewed by:

District?_____ Date_____

METS_____ Date_____

11B. Project Reviewed by:

District Maintenance_____ Date_____

District Materials_____ Date_____

HQ DLP_____ Date_____

HQ Maintenance Program_____ Date_____
(HA22 Program Advisor)

FHWA (as appropriate)_____ Date_____

Type of federal Involvement: _____

Others_____ Date_____

12. Proposed Funding (IM, NH, etc.):

_____

_____

13. Project Support:

Proposed Program FY	District PY'S			Engineering Service Center PY'S					FY Total PY'S	Other Costs ($)
				METS		Others		Office		
	Design	R/W	Constr	Design	Constr	Design	Constr	Engr		
TOTAL ESTIMATED PROJECT PY'S AND OTHER SUPPORT COSTS:									PY'S	$*

* Note: Dollar value of estimated specialty contracts, etc. to be shown only when applicable.

14. Remarks (List all alternatives studied, cost, reasons not recommended, etc.) **:

_____

_____

15. List of Attachments:

A. Strip Map - (may be eliminated if Vicinity Map on Cover Sheet is adequate)

B. GIS Map

C. Typical Section(s)

D. PMS Inventory Data

E. Deflection Study Report(s) - (For AC pavements only)

F. Scoping Team Field Review Attendance Roster

G. Structural Section Recommendation (Memo from District Materials Unit) - (as appropriate)

Note: ** Add additional lines as necessary.